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EXAMINER	
VAINBERG, SIMON	

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1797	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/521,681	HERLEM ET AL.
	Examiner	Art Unit
	Simon Vainberg	1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8-12* is/are rejected.

7)☐ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 January 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/04/2005*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: reference number (1) (see Fig. 1). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kovacs et al. (US Patent 6051422) and further in view of Göpel et al. (Göpel W., Ziegler Ch., Breer H. et al. Bioelectronic noses: a status report. Part I. 1998. Biosensors & Bioelectronics, v. 13, No. 3-4, pp. 479-493).

Regarding claim 1, Kovacs et al. teaches a detector system for detecting at least one chemical substance (see Abstract last three lines). The system comprising a measurement sensor (26) (called live cells) for selectively sensing the chemical substance to be detected (see column 1 lines 59-63 and Fig. 2B), and a measurement

unit (called electrodes (8) and signal generation means (10)) associated with the measurement sensor (see Fig.1 and Fig.2B, and column 7 lines 19-23) for the purpose of being connected to a processor unit (called signal detection means (12) and signal monitoring/processing means (14), see column 7 lines 24-30) to determine whether said chemical substance for detection is present or absent (see claims 19 and 20). Kovacs teaches that cells are supported by microelectrode array (68) (see Fig. 6. and column 12 line 66).

Kovacs et al. does not teach that the measurement sensor comprises at least one olfactory neuron selected for selectively sensing the chemical substance to be detected, and in that the olfactory neuron is secured to a support in order to co-operate with the measurement unit.

Göpel et al. teaches a cell-based modular biosensor wherein the olfactory neuronal cells can be used for biosensing (see Fig. 2 and page 483, Table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Kovacs et al. by using olfactory neuron cells as measuring sensor because it allows to detect the presence of specific chemical compounds.

6. Claims 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kovacs et al. (US Patent 6051422) and Göpel et al. (Göpel W., Ziegler Ch., Breer H. et al. Bioelectronic noses: a status report. Part I. 1998. Biosensors & Bioelectronics, v. 13, No. 3-4, pp. 479-493), as applied to claim 1 in view of Baumann et al. (US Patent 6368851).

Regarding claim 2, Kovacs et al. and Göpel et al. teach a detector system according to claim 1, except for the support element which is covered at least in part in electrical insulation on which the olfactory neuron is secured.

Baumann et al. teaches an apparatus for measuring a state variable of at least one biological cell located in a nutrient medium comprising a specimen slide (4) having a support area (5) on which the cell (3) is supportable in an adherent manner (see claim 1). Baumann et al. further teaches that support is covered by electrical insulation (9) on which the cell is supported (see claim 1, column 15 lines 48-50 and Fig. 1).Baumann et al. also teaches that cell potential can be measured for nerve cells (see column 2 line 61). Baumann et al. does not teach olfactory neuron cells.

Göpel et al. teaches the using of olfactory neuron cells for biosensing (see Fig. 2 and page 483, Table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Kovacs et al. by fabricating a support covered with an electrical insulation on which the cells are secured as taught by Baumann et al. and use olfactory neuron cells as taught by Göpel et al. because it allows to measure the electrical potential of the cell based on the presence of specific analytes.

Regarding claim 3, Kovacs et al., Göpel et al. and Baumann et al. teach a detector system according to claim 2, in which the electrical insulation comprises an elastic material suitable for securing nerve cells.

Baumann et al. teaches that insulator consist of elastic material and can be applied to the substrate as a coating that inherently suggests that this material is a polymer (see column 13 lines 3 and 4, and column 15 line 60).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Kovacs et al. and Göpel et al. by using a elastic coating material as insulator as taught by Baumann et al. because polymeric insulation is an inert, biocompatible with cells and allows a relative movement between the measuring electrode and substrate.

Claim 4. Kovacs et al., Göpel et al. and Baumann et al. teach a detector system according to claim 3. The claim 4 contains limitations of the process of making the product. The method of forming device is not germane to the issue of patentability of the device itself. Therefore, these limitations have not been given a patentable weight.

Claim 5. Kovacs et al., Göpel et al. and Baumann et al. teach a detector system according to claim 4. The claim 5 contains limitations of the process of making the product. The method of forming device is not germane to the issue of patentability of the device itself. Therefore, these limitations have not been given a patentable weight.

Regarding claim 6, Kovacs et al., Göpel et al. and Baumann et al. teach a detector system according to claim 2 in which the measurement unit comprises at least one measurement electrode and a reference electrode in contact with the cell, said measurement and reference electrodes being for connection to the processor unit.

Kovacs et al. teaches a measuring electrode (8) and a reference electrode (4) (see Fig.1). The detected signal is detected by signal detection means (12) and signal is

processed with monitoring and processing means (14) which are inherently connected to the electrodes (see column 7 lines 28-31 and Fig. 11).

Baumann et al. also teaches a measuring probe for contact with a liquid located inside the cell (see claim 1) The measuring probe comprises a measuring electrode (6) to which is allocated at least one reference electrode (15) contactable with the nutrient medium (2) for measuring a potential of the cell (3) (see claim 3).

Göpel et al. teaches the using of olfactory neuron cells for biosensing (see Fig. 2 and page 483, Table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Kovacs et al. and Baumann et al. by using the olfactory neuron cells as taught by Göpel et al., because it would allow one to detect the presence of the specific chemicals in the environment.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kovacs et al. (US Patent 6051422) and Göpel et al. (Göpel W., Ziegler Ch., Breer H. et al. Bioelectronic noses: a status report. Part I. 1998. Biosensors & Bioelectronics, v. 13, No. 3-4, pp. 479-493), as applied to claim 1 in view of Walt et al. (US Patent 6377721).

Regarding claim 8, Kovacs et al. and Göpel et al. teach a detector system according to claim 1, except the measurement unit comprises firstly emitter means for emitting excitation light towards the olfactory neuron to enable the excitation light to interact with the chemical substance to be detected in order to produce radiation for detection, and secondly reception means for receiving the radiation for detection as

emitted by the chemical substance, said reception means being connected to the processor unit

Walt et al. teaches a sensing apparatus in which individual cells having unique response characteristics to chemical materials are deployed in a plurality of discrete sites on a substrate. In a preferred embodiment, the discrete sites comprise microwells formed at the distal end of individual fibers within a fiber optic array. The biosensor array provides simultaneous measurements of large numbers of individual cell responses to target analytes (see Abstract).

Walt et al. further teaches an optical coupling of individual cells located at discrete substrate cites or microwells with discrete detector elements, CCD cameras, or individual optical fibers in a fiber optic array or bundle that are in optical communication with such devices. By "optical coupling" is meant the capability of either optically stimulating individual cells within the biosensor array with excitation light or optically interrogating the optical response of individual cells within the array to analytes, by conveying light to and from individual cells located at discrete cites within the array using either conventional optical train elements or optical fibers (see column 7 lines 14-29). Where external optical stimulation of cells is required to elicit an optical response, conventional light sources such as arc lamps, photodiodes, or lasers may be employed for excitation light energy. Cell responses may be monitored by conventional detectors such as photomultiplier tubes, photodiodes, photoresistors or charge coupled device (CCD) cameras. Conventional optical train components, such as lenses, filters, beam splitters, dichroics, prisms and mirrors may be employed to convey light to an from such

light sources and detectors either to discrete substrate sites or through optical fiber strands to microwells that contain individual cells (see column 31 lines 3-17). Procession unit connected to reception means comprises a desktop computer (180) using IPLab 3.0 image processing software (see column 31 lines 27-54).

Walt et al. also teaches that virtually any cell type and size can be accommodated in fabricating the sensor of the present invention including different types of neuron cells (see column 15 lines 13-15 and 32-34).

Walt et al. dose not teach directly olfactory neuron cells.

Göpel et al. teaches the using of olfactory neuron cells for biosensing (see Fig. 2 and page 483, Table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Kovacs et al. by using a cell-based biosensor with an optical detection system as taught by Walt et al. and olfactory neuron cells as taught by Göpel et al. because it allows to reduce time for the detection of the specific chemicals.

Claims 9-12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kovacs et al. (US Patent 6051422) and Göpel et al. (Göpel W., Ziegler Ch., Breer H. et al. Bioelectronic noses: a status report. Part I. 1998. Biosensors & Bioelectronics, v. 13, No. 3-4, pp. 479-493) and Baumann et al. (US Patent 6368851) in view of Walt et al. (US Patent 6377721).

Regarding claim 9, Kovacs et al., Göpel et al. and Baumann et al. teach a detector system according to claim 2, except the measurement unit comprises firstly

emitter means for emitting excitation light towards the olfactory neuron to enable the excitation light to interact with the chemical substance to be detected in order to produce radiation for detection, and secondly reception means for receiving the radiation for detection as emitted by the chemical substance, said reception means being connected to the processor unit.

Walt et al. teaches a sensing apparatus in which individual cells having unique response characteristics to chemical materials are deployed in a plurality of discrete sites on a substrate. In a preferred embodiment, the discrete sites comprise microwells formed at the distal end of individual fibers within a fiber optic array. The biosensor array provides simultaneous measurements of large numbers of individual cell responses to target analytes (see Abstract).

Walt et al. further teaches an optical coupling of individual cells located at discrete substrate cites or microwells with discrete detector elements, CCD cameras, or individual optical fibers in a fiber optic array or bundle that are in optical communication with such devices. By "optical coupling" is meant the capability of either optically stimulating individual cells within the biosensor array with excitation light or optically interrogating the optical response of individual cells within the array to analytes, by conveying light to and from individual cells located at discrete cites within the array using either conventional optical train elements or optical fibers (see column 7 lines 14-29). Where external optical stimulation of cells is required to elicit an optical response, conventional light sources such as arc lamps, photodiodes, or lasers may be employed for excitation light energy. Cell responses may be monitored by conventional detectors

such as photomultiplier tubes, photodiodes, photoresistors or charge coupled device (CCD) cameras. Conventional optical train components, such as lenses, filters, beam splitters, dichroics, prisms and mirrors may be employed to convey light to an from such light sources and detectors either to discrete substrate sites or through optical fiber strands to microwells that contain individual cells (see column 31 lines 3-17). Procession unit connected to reception means comprises a desktop computer (180) using IPLab 3.0 image processing software (see column 31 lines 27-54).

Walt et al. also teaches that virtually any cell type and size can be accommodated in fabricating the sensor of the present invention including different types of neuron cells (see column 15 lines 13-15 and 32-34).

Walt et al. dose not teach directly olfactory neuron cells.

Göpel et al. teaches the using of olfactory neuron cells for biosensing (see Fig. 2 and page 483, Table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Kovacs et al. by using a cell-based biosensor with an optical detection system as taught by Walt et al. and olfactory neuron cells as taught by Göpel et al. because it allows to reduce time for the detection of the specific chemicals.

Regarding claim 10, Kovacs et al., Göpel et al. and Baumann et al. teach a detector system according to claim 3, except the measurement unit comprises firstly emitter means for emitting excitation light towards the olfactory neuron to enable the excitation light to interact with the chemical substance to be detected in order to

produce radiation for detection, and secondly reception means for receiving the radiation for detection as emitted by the chemical substance, said reception means being connected to the processor unit.

Walt et al. teaches a sensing apparatus in which individual cells having unique response characteristics to chemical materials are deployed in a plurality of discrete sites on a substrate. In a preferred embodiment, the discrete sites comprise microwells formed at the distal end of individual fibers within a fiber optic array. The biosensor array provides simultaneous measurements of large numbers of individual cell responses to target analytes (see Abstract).

Walt et al. further teaches an optical coupling of individual cells located at discrete substrate cites or microwells with discrete detector elements, CCD cameras, or individual optical fibers in a fiber optic array or bundle that are in optical communication with such devices. By "optical coupling" is meant the capability of either optically stimulating individual cells within the biosensor array with excitation light or optically interrogating the optical response of individual cells within the array to analytes, by conveying light to and from individual cells located at discrete cites within the array using either conventional optical train elements or optical fibers (see column 7 lines 14-29). Where external optical stimulation of cells is required to elicit an optical response, conventional light sources such as arc lamps, photodiodes, or lasers may be employed for excitation light energy. Cell responses may be monitored by conventional detectors such as photomultiplier tubes, photodiodes, photoresistors or charge coupled device (CCD) cameras. Conventional optical train components, such as lenses, filters, beam

splitters, dichroics, prisms and mirrors may be employed to convey light to an from such light sources and detectors either to discrete substrate sites or through optical fiber strands to microwells that contain individual cells (see column 31 lines 3-17). Procession unit connected to reception means comprises a desktop computer (180) using IPLab 3.0 image processing software (see column 31 lines 27-54).

Walt et al. also teaches that virtually any cell type and size can be accommodated in fabricating the sensor of the present invention including different types of neuron cells (see column 15 lines 13-15 and 32-34).

Walt et al. dose not teach directly olfactory neuron cells.

Göpel et al. teaches the using of olfactory neuron cells for biosensing (see Fig. 2 and page 483, Table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Kovacs et al. by using a cell-based biosensor with an optical detection system as taught by Walt et al. and olfactory neuron cells as taught by Göpel et al. because it allows to reduce time for the detection of the specific chemicals.

Regarding claim 11, Kovacs et al., Göpel et al. and Baumann et al. teach a detector system according to claim 4, except the measurement unit comprises firstly emitter means for emitting excitation light towards the olfactory neuron to enable the excitation light to interact with the chemical substance to be detected in order to produce radiation for detection, and secondly reception means for receiving the

radiation for detection as emitted by the chemical substance, said reception means being connected to the processor unit.

Walt et al. teaches a sensing apparatus in which individual cells having unique response characteristics to chemical materials are deployed in a plurality of discrete sites on a substrate. In a preferred embodiment, the discrete sites comprise microwells formed at the distal end of individual fibers within a fiber optic array. The biosensor array provides simultaneous measurements of large numbers of individual cell responses to target analytes (see Abstract).

Walt et al. further teaches an optical coupling of individual cells located at discrete substrate cites or microwells with discrete detector elements, CCD cameras, or individual optical fibers in a fiber optic array or bundle that are in optical communication with such devices. By "optical coupling" is meant the capability of either optically stimulating individual cells within the biosensor array with excitation light or optically interrogating the optical response of individual cells within the array to analytes, by conveying light to and from individual cells located at discrete cites within the array using either conventional optical train elements or optical fibers (see column 7 lines 14-29). Where external optical stimulation of cells is required to elicit an optical response, conventional light sources such as arc lamps, photodiodes, or lasers may be employed for excitation light energy. Cell responses may be monitored by conventional detectors such as photomultiplier tubes, photodiodes, photoresistors or charge coupled device (CCD) cameras. Conventional optical train components, such as lenses, filters, beam splitters, dichroics, prisms and mirrors may be employed to convey light to an from such

light sources and detectors either to discrete substrate sites or through optical fiber strands to microwells that contain individual cells (see column 31 lines 3-17). Procession unit connected to reception means comprises a desktop computer (180) using IPLab 3.0 image processing software (see column 31 lines 27-54).

Walt et al. also teaches that virtually any cell type and size can be accommodated in fabricating the sensor of the present invention including different types of neuron cells (see column 15 lines 13-15 and 32-34).

Walt et al. dose not teach directly olfactory neuron cells.

Göpel et al. teaches the using of olfactory neuron cells for biosensing (see Fig. 2 and page 483, Table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Kovacs et al. by using a cell-based biosensor with an optical detection system as taught by Walt et al. and olfactory neuron cells as taught by Göpel et al. because it allows to reduce time for the detection of the specific chemicals.

Regarding claim 12, Kovacs et al., Göpel et al. and Baumann et al. teach a detector system according to claim 5, except the measurement unit comprises firstly emitter means for emitting excitation light towards the olfactory neuron to enable the excitation light to interact with the chemical substance to be detected in order to produce radiation for detection, and secondly reception means for receiving the radiation for detection as emitted by the chemical substance, said reception means being connected to the processor unit.

Walt et al. teaches a sensing apparatus in which individual cells having unique response characteristics to chemical materials are deployed in a plurality of discrete sites on a substrate. In a preferred embodiment, the discrete sites comprise microwells formed at the distal end of individual fibers within a fiber optic array. The biosensor array provides simultaneous measurements of large numbers of individual cell responses to target analytes (see Abstract).

Walt et al. further teaches an optical coupling of individual cells located at discrete substrate cites or microwells with discrete detector elements, CCD cameras, or individual optical fibers in a fiber optic array or bundle that are in optical communication with such devices. By "optical coupling" is meant the capability of either optically stimulating individual cells within the biosensor array with excitation light or optically interrogating the optical response of individual cells within the array to analytes, by conveying light to and from individual cells located at discrete cites within the array using either conventional optical train elements or optical fibers (see column 7 lines 14-29). Where external optical stimulation of cells is required to elicit an optical response, conventional light sources such as arc lamps, photodiodes, or lasers may be employed for excitation light energy. Cell responses may be monitored by conventional detectors such as photomultiplier tubes, photodiodes, photoresistors or charge coupled device (CCD) cameras. Conventional optical train components, such as lenses, filters, beam splitters, dichroics, prisms and mirrors may be employed to convey light to an from such light sources and detectors either to discrete substrate sites or through optical fiber strands to microwells that contain individual cells (see column 31 lines 3-17).

Procession unit connected to reception means comprises a desktop computer (180) using IPLab 3.0 image processing software (see column 31 lines 27-54).

Walt et al. also teaches that virtually any cell type and size can be accommodated in fabricating the sensor of the present invention including different types of neuron cells (see column 15 lines 13-15 and 32-34).

Walt et al. dose not teach directly olfactory neuron cells.

Göpel et al. teaches the using of olfactory neuron cells for biosensing (see Fig. 2 and page 483, Table 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teaching of Kovacs et al. by using a cell-based biosensor with an optical detection system as taught by Walt et al. and olfactory neuron cells as taught by Göpel et al. because it allows to reduce time for the detection of the specific chemicals.

Allowable Subject Matter

9. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter. Prior art does not disclose a detector system according to claim 6, in which the olfactory neuron (7) presents a cell body (71) which is extended on one side by dendrites (73) and on an opposite side by an axon (73) presenting a plasma membrane (70), and the measurement electrode (82) is disposed inside the plasma membrane (70)

of the axon (73), while the reference electrode (81) is placed in contact with the surface of the plasma membrane (70) of said axon (73).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Simon Vainberg whose telephone number is 571-270-3150. The examiner can normally be reached on Monday- Thursday 7:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SV

Walter D. Griffin
WALTER D. GRIFFIN
SUPERVISORY PATENT EXAMINER